Snow and Ice Control on **NOVA SCOTIA** Highways

NOVA SCOTIA

**Transportation and Public Works**

106-04868/

## Introduction

Winter driving in the Maritimes presents challenges for all of us, even under the best of conditions. Whether you've been behind the wheel for many years, or are just starting out as a beginning driver, winter conditions require all of us to take extra care when heading out on our roads.

While your actions are important, we realize that the province also has a crucial role to play in the safety of motorists, through our snow and ice control program. Our commitment to plow as quickly as possible after a storm helps to keep our roads clear for emergency vehicles. It helps you get to work. School buses can safely deliver your children to school. And it ensures that our trucking industry can deliver goods to Canadian and foreign markets in a timely manner.

We have prepared this booklet to help make sure that your travels throughout Nova Scotia are as safe as possible this winter, and to give you information on our snow and ice control program. We hope you will find this information useful, and that it will go a long way to keeping our highways safe. We also want to take this opportunity to thank our winter maintenance staff and private contractors who will be on our roads again in difficult, often hazardous conditions to help us get where we are going safely.

## **Adjusting** to winter driving conditions

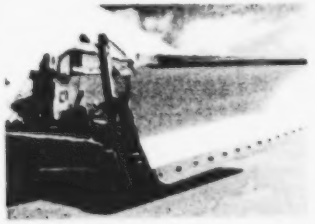
A change of seasons means changes to get your vehicle road-ready. In winter, that means checking your heating systems, fluid levels, tire condition and adding a winter survival kit. But as drivers, we need to do more than ready our vehicles; our whole approach to driving has to change. We need to be more patient. We need to apply common sense by adjusting speeds to local weather and road conditions. And it may mean staying at home if the weather is particularly nasty.

The department makes every possible effort to promote driver safety and provide efficient, cost-effective snow and ice control services to the public. However, as we all know, extreme weather conditions place extra demands on motorists and our maintenance crews. **Our crews take safety very seriously.** And we encourage all drivers to take the same approach.

Our Department of Transportation and Public Works staff and contractors responsible for snow and ice control on our provincial highways thank you for your co-operation.

## Sharing the road with plows

With an average weight of 28 tonnes, a typical snow plow in Nova Scotia is no feather duster. More importantly, for our plows, and our salt/sand trucks to do their job effectively, they must travel at slower speeds than regular traffic. So when you see these vehicles on our highways, please slow down. Our operators need room to do their jobs properly. Sight lines are severely restricted around these vehicles, which can make passing dangerous, especially in blowing snow or whiteout conditions. Be patient and wait for the operator to pull over so you can pass without jeopardizing your life, or the lives of our support staff.



Always shovel snow or ice away from the direction of an approaching plow.

## Keep snow off our roads

It may sound hard to believe, but shoveling – or plowing – even a small amount of snow onto a highway can have serious consequences. One winter, a pile of ice and snow sent a 28-tonne grader into a spin, forcing a car in the oncoming lane into the ditch. Fortunately, no one was seriously hurt, but if the driver had collided head-on with the grader, or the car overturned or hit a structure in the ditch, the outcome could have been fatal. Frozen snow left on the highway could kill someone. It's also a punishable offence under the Public Highways Act. Save yourself expensive fines, and save lives, by keeping snow and ice off our highways – always shovel snow or ice away from the direction of an approaching plow. This way, you won't have to shovel that snow again after the plow passes through.

## Snow and Ice Control Standards

When it comes to snow and ice control, everyone in Nova Scotia wants to know that, regardless of where they live, they are receiving the same level of service as anyone else in our province. To meet the demand for consistent and efficient service, the province has developed winter maintenance performance standards for roads and highways. For example, a certain class of road in Yarmouth County, such as Trunk 3, will be cleared of snow within the same time frame as Trunk 19 in Inverness County - cleared to essentially bare pavement within 12 hours **after the end of a storm**. However, it may take longer to meet these standards when temperatures drop below -10 degrees Celsius, because road salt loses its effectiveness at colder temperatures.

### Winter Maintenance Standards

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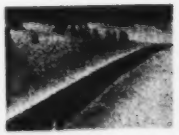
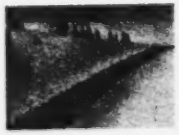
|---|---|---|
| **100-SERIES HIGHWAYS** | **Essentially bare pavement** | **Within eight hours after end of storm** |
| **TRUNK HIGHWAYS** | **Essentially bare pavement** | **Within 12 hours after end of storm** |
| **ROUTE HIGHWAYS** | **Centre line bare width of 2.5m-5.0m** | **Within 12 hours after end of storm** |
| **LOCAL PAVED ROADS** | **Centre line bare width of 1.5m-2.5m** | **Within 24 hours after end of storm** |
| **GRAVEL ROADS** | **Snow-packed condition, free of loose snow** | **Within 24 hours after end of storm** |

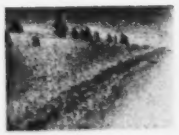


Bare Pavement



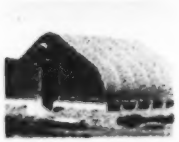
Centre Bare
2.5 - 5.0 m

Centre Bare
1.5 - 2.5 m



Snow Packed

All drivers should note that these driver standards may be different from those [illegible] in certain municipalities, [illegible]



Road salt is one of the most effective materials we have to deal with snow and ice on our highways. Although it is not harmful to people, studies have shown that road salt can have a harmful effect on our environment, and the natural beauty of our province. To ensure the continued safety of our roads, and the health of our environment, The Department of Transportation and Public Works has adopted guidelines for the responsible, appropriate use of road salt on our highways.

The department has found that pre-wetting the salt helps it stick better to road surfaces. This makes the salt more effective in keeping our roads safe while allowing us to reduce our salt use by as much as fifteen per cent. We are also installing monitors along our highways to measure road and weather conditions and determine the best time to use salt. Upgrades to our salt storage facilities are helping to prevent leaks into the environment, and all of our ice and snow control operations throughout the province are guided by strict standards for consistency and effectiveness.

Our department is committed to monitoring these measures, and looking for new ways to reduce and better manage road salt, to keep our highways as clear and safe as possible.

**Nova Scotia's approach to road salt**

## **Using sand** for traction

There are times when the use of road salt is not effective against winter conditions, particularly temperatures below -10 degrees Celsius. Sand offers exceptional traction when temperatures are too low for road salt. It is also useful in milder temperatures when instant traction is needed, especially on steep hills, sharp turns, bridge decks, intersections, shaded areas and snow-packed roads. Although sand can help provide much-needed traction, be sure to use extra caution when driving in these conditions.

## **Black ice**

Unlike most highway hazards, black ice is not easy to see, and harder to avoid. Even though roads may appear clear, and temperatures may be above freezing, black ice can form any time the temperature dips below 5 degrees Celsius.

Black ice is caused by a layer of frost on the pavement and is most often found on bridges, underpasses and in low or shaded areas. It also frequently forms in the early morning hours when moisture, drawn from the pavement by the rising sun, flash freezes and forms an invisible layer of frost. So even if roads appear clear of ice, it never hurts to use extra precaution when travelling this winter.

## Property and plow **safety**

Although we have set standards for consistent, and safe, snow and ice control service, our ability to meet those standards is occasionally hampered by roadside obstacles. These obstacles can cause more than delays; they can damage equipment and even injure plow operators. Sometimes, these obstacles – such as mailboxes, composters, and vehicles – are also damaged.

Here are some tips to help us do our job on schedule, and prevent damage to your property.

**Check the location of your mailbox** – Mailboxes are often damaged because snow plows can't see them. Make sure that your mailbox is high enough and far back enough from the road so plows can safely pass. Remember, plows will try to clear as much of the shoulder as possible as snow accumulates, and our department is not responsible for mailboxes damaged during routine snow clearing.

**Obey winter parking bans** – During winter storms, parked vehicles interfere with the efforts of our snow and ice control staff, creating dangerous conditions for all drivers. Most Nova Scotia towns, villages and municipalities have laws prohibiting parking on streets between 1:00 a.m. and 7:00 a.m. during winter. The ban is also in effect from one hour after a storm begins until two hours after it has stopped. Obeying winter parking bans will prevent large fines or having your vehicle towed away, not to mention collisions for our crews or other drivers due to poor visibility and conditions.

**Move your composter** – The blades on the average snow plow measure up to 4.9 metres (16 feet) in width. Keep your composter as far back from the road as possible.

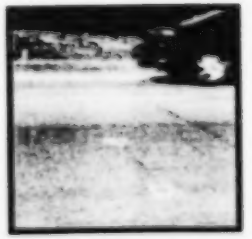
And remember, piling pulpwood and longs on the shoulder of the road is both illegal and dangerous.

## High-tech highway **safety**

We believe that the more we know about weather and road conditions, the more we can do to ensure the safety of all Nova Scotians on our roads this winter. That's why the Department of Transportation and Public Works continues to invest in leading-edge technology that offers us, and you, the most accurate, up-to-date information on winter driving conditions. One of our most recent investments is the Advanced Road Weather Information System. Here's how it works.

We have installed a series of towers along some provincial highways that gather constant information on road temperatures from sensors embedded in the pavement. The information is collected and monitored around-the-clock by our staff so that drivers and safety crews have reliable, up-to-the-minute information on weather conditions and road temperatures before heading out on our highways.

Our department will continue to look for new, technologically advanced systems and tools to help you arrive at your destination.



## Snow and Ice Control Services

The department contracts about ten per cent of its snow and ice control services in Nova Scotia. To ensure consistency and utmost safety in service, we have created strict guidelines that all operators must obey. We also monitor the operations of all contractors before, during and after winter storms to ensure full compliance. Contractors that fail to meet our standards face penalties, including loss of contract.

## Road closures

Wherever possible, our snow and ice control crews are committed to keeping Nova Scotia's roads clear and open. Yet there are instances where extreme weather conditions are more than our crews can handle, resulting in road closures. For your safety, please respect these closures and do not attempt to drive on these roads until they are reopened. It's also against the law to travel on closed highways, so please obey emergency road closing signs and follow the instructions of any police officers on the scene.

## Driver's Checklist

Whether you are planning a trip, or you are on the road a lot, you should make every effort to prepare your vehicle for all winter driving conditions. Here is a helpful checklist to get your car ready for winter.

- have your car safety checked to ensure that it is ready for winter conditions;
- install all-season or winter tires with good treads. Make sure they are in good condition and properly inflated;
- check your fluid levels, and replace or repair any faulty lights, brakes, wipers, defrosters, and hoses as necessary;
- fill your windshield fluid reservoir and make sure that the fluid can handle temperatures in the -40 degree Celsius range. Keep an extra container in your trunk in case of emergencies;
- keep a scraper and snow brush on-hand to keep your view unobstructed by ice and snow;
- equip your car with salt, sand and a shovel in case it gets stuck in snow or ice. Kitty litter can also be substituted for sand;
- keep your tank well fueled – at least half-full – to prevent freeze-ups in your gas line;
- conditions can change in an instant, so always check weather and road conditions, and be sure to give yourself extra travel time;
- clear your roof, windows and signal lights of any snow, fog or ice that may impair your visibility, or the ability of other drivers to anticipate your actions;
- if you are travelling a long distance, plan your travel route, and let someone know where you are going;

## Other helpful items include:

A lock de-icer is handy for opening your car door on extremely cold days.

Jumper cables are helpful if you have problems starting your car.

First-aid kit in case of accident or injury.

A fully charged cell phone in case of emergency.

A winter survival kit is a great idea in case you find yourself stranded along the side of the road waiting for assistance. A good kit should include items like:

- a thick blanket
- waterproof matches
- candles
- non-perishable food (e.g., nuts, dried fruit, chocolate)
- extra clothing
- a deep can that can be used to hold a candle or melt snow for water
- a garbage bag that can be cut and worn over winter clothes as a vapour barrier
- a newspaper for additional warmth
- a flash flag that can be attached to your aerial
- paper towels
- tool kit
- flashlight
- knife
- tow rope
- extra fuses, belts and hoses
- road flares or warning lights
- road maps
- gas line antifreeze

## Staying Safe if you're stranded

No matter how experienced you are as a driver, no matter how trustworthy your vehicle, you may find yourself stranded by winter road and weather conditions. Here are a few tips you should follow that will help make your wait for roadside assistance less uncomfortable.

- stay calm, and stay with your vehicle to keep warm and safe.
- if you have to get out of your car for any reason, use the door facing away from traffic.
- if you try to free your car from ice or snow, make sure you are dressed warmly. Shovel slowly and try not to overexert yourself. Try also to keep your clothing as dry as possible to avoid loss of body heat.
- if you must run your engine to stay warm, use it sparingly. Be sure to check the exhaust pipe to keep it clear of snow and ice.
- remember to move your arms, feet and head to maintain circulation.

## Did you know?

- Each year, the province spends about $35 to $40 million on ice and snow removal on Nova Scotia's highways.
- 260,000 tonnes of salt are applied to our highways each winter.
- 400 plows are used for winter maintenance, including graders, trucks and four-wheel drive vehicles.
- 500 staff are hired each winter to keep our roads safe and clear.
- Black ice can form instantaneously just about anywhere on Nova Scotia's highways. In fact, it most often forms as the sun rises. Although you might expect the warmth of the sun to evaporate moisture, it tends to draw it to the surface of the road where it flash-freezes, creating black ice.
- Road salt loses its effectiveness in temperatures below -10 degrees Celsius during the day and -7 degrees Celsius at night.

## Frequently asked questions about winter driving and snow/ice removal

**It's snowing out, but I don't see any plows yet. Why not?**
Our crews rely on weather reports and other data to plan the timing of winter maintenance. In most cases, it makes more sense to wait until significant amounts of snow have accumulated, or until the storm has passed. Salt needs snow on the ground before it can work effectively.

**Which roads are cleared first?**
We plow the roads with the highest traffic volumes first and then move onto trunks and local roads.

**When does the winter parking ban take effect?**
Each December, on a date that is publicly advertised, many roads maintained by the province in most counties must be clear of vehicles between 1 a.m. and 7 a.m. The ban helps our crews respond safely and quickly in the event of a storm.

**What if I have a claim for property damage caused by a plow?**
Contact our Insurance and Risk Management staff at **1-888-670-7767**, or **424-4440** in Halifax.

**Where can I get updates on winter road conditions?**
Starting around December first, on our web site at **www.gov.ns.ca/tran**, or by calling our toll-free Winter Road Report hotline at **1-800-307-SNOW (7669)**.

## Here to help you

Looking for information on snow and ice control services, or road and weather conditions across Nova Scotia?

Contact us toll-free at **1-800-307-SNOW (7669)** for the most up-to-the-minute conditions, or visit our website at **www.gov.ns.ca/tran**.

We also provide updates to 97.9FM, Halifax Information Radio, as a public service.